

EXPRESS Rack Muffler Benefits

EXPRESS Rack 4 on Flight 8A

AWG Meeting 15 February 2002

Issue at Hand

- Mufflers are thought to be inefficient and in the way of activities.
- Minimal noise increase heard when removing the mufflers from the payloads.

Payloads With Mufflers in EXPRESS Rack 4 on 8A

CPCG-Unit H2 (1-muffler)

CPCG-Unit H3 (1-muffler)

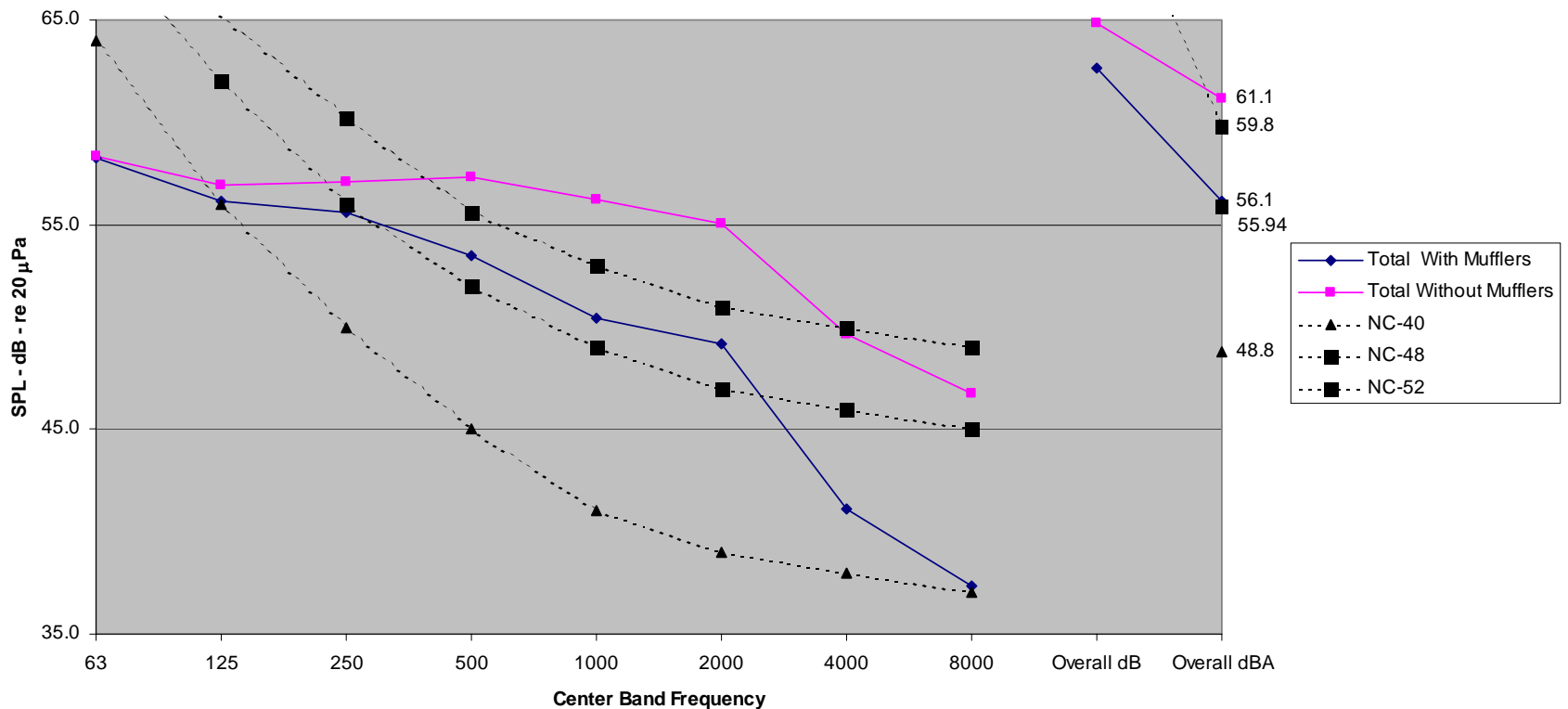
CGBA Unit 3 (1- muffler)

BPS (1-muffler)

*Total of four mufflers on this rack only. Other
racks contain mufflers as well.*

Total Reduction With Mufflers

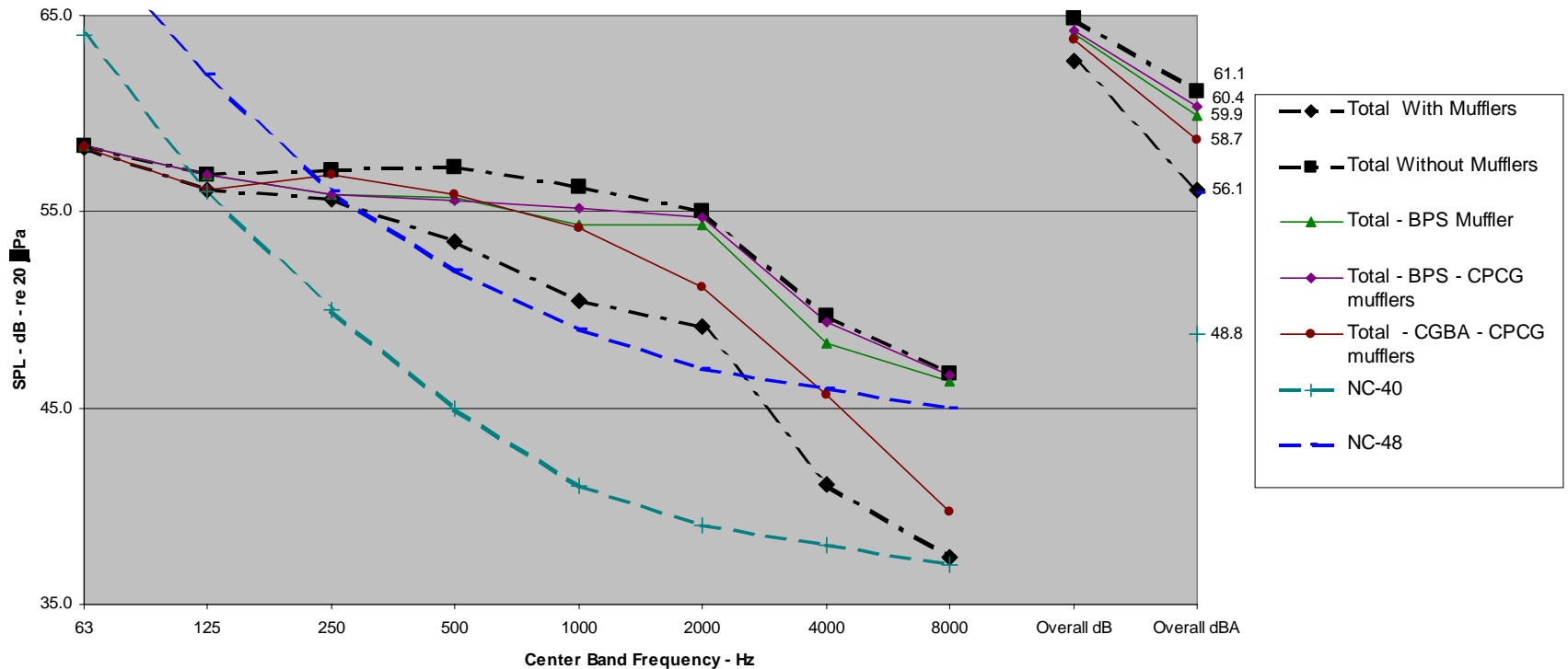
Integrated Rack Total Noise levels for EXPRESS Rack 4, Flight 8A.
With and Without Mufflers



EXPRESS RACK MUFFLER
BENEFITS

Effects of Removing Mufflers

Effects of Incrementally Removing Mufflers from EXPRESS Rack 4 Payloads on 8A.



EXPRESS RACK MUFFLER
BENEFITS

Muffler Thoughts

- As shown in the previous charts, removing mufflers will increase the overall noise levels across the spectrum
- Small increases (usually between 2-3 dB) are perceptually difficult to determine with the human ear.
- Higher frequencies have a larger variation with the removal of the mufflers (6-10 dB)
- Muffler removal results in a 5 dB increase
 - *This is a tripling of the energy.*

Recommendations

- Recommend leave mufflers on